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ABSTRACT

Cinema as an art and communication form is entering its second century of development. Sergei Eisenstein conceived of editing in horizontal and vertical terms. He saw vertical editing patterns primarily as the synchronization of simultaneous image and sound elements, particularly music, no create cinematic meaning by means of the relationship between them. The Eisensteinian editing theories and techniques embody the values of the dominant paradigm of the time. They were grounded in a linear, assembled, progressive, and fixed worldview of the positivist paradigm of the industrial era. In recent years, both paradigm and technology have changed. At the paradigmatic level, emergent systems theory derived from biology and ecological consciousness, posits a worldview of interdependent systems that are self-organizing, self-renewing, and self-transcending. At the technological level, the rise of cybernetic and electronic technologies, replete with computers and networks, now dominate the technological landscape. The cinematic technology revolution of the last decade along with the revisioning of the theory base has led to a reconceptualization of vertical editing. The techniques of digital technology are informed by emergent systems thinking. The spontaneous juxtaposition of layers, immediate feedback, and layering of imagery all create new meanings. Because a digital image is not fixed it can be revised at any time. Informed by a systems view and implemented by digital tools and techniques, the Eisensteinian notion of vertical editing has acquired new meaning. (AEF)

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Vertical Hegelianism And Beyond: Digital Cinema Editing

by Roger B. Wyatt

Abstract

The dynamic interaction of new paradigmatic frameworks with digital tools and techniques has reinvented Sergie Eisenstein's conception of vertical montage. The tight synchronization of multiple tracks is replaced by an organic process of image layering creating new meaning.

Hegelian Cinema

Cinema as an art and communication form is entering its second century of development. From an editing perspective, the work in particular of Griffith, Eisenstein, and Hitchcock elevated cinematic editing from mere narrative assembly to Hegelian juxtaposition of image and sound sequences, creating new meaning in the process. Sergei Eisenstein, the most formally theoretical of these filmmakers, conceived of editing in horizontal and vertical terms. The shots of a horizontally edited sequence occupy the same screen space at different times. Chronologically sequential edit patterns are created. Horizontal editing is the linear assemblage of shots to form sequences that unfold over time.

The Hegelian construct of thesis in collision with antithesis that yields a new synthesis is at the heart of Sergei Eisenstein's editing theories. Cinematically, Hegel would be expressed as shot one plus shot two equals idea three. Eisenstein stated that, "montage is an idea that arises from the collision of independent shots-shots even opposite to one another ...." (Eisenstein, 1949, p. 49)

Eisenstinian collision of images yielding new meaning is one of the most powerful techniques that filmmakers use. The creation of meaning through gaze is based on this technique. An editor selects a shot, perhaps a close-up, of someone looking. Joined by a cut, the next shot reveals what is seen. It is the juxtaposition of the two shots, linked by a cut, in the mind of the viewer that creates the observer observed relationship. There is nothing inherent in either of the two shots alone that contains the resulting idea.

V.I. Pudovkin's and Lev Kuleshov's experiments with shot juxtaposition explored this relationship. Pudovkin reported that, "Kuleshov and I made an interesting experiment. We took from some film or other several close-ups of the well-known Russian actor Mosjukhin. We chose close-ups which were static and which did not express any feeling at all- quiet close-ups. We joined these close-ups, which were all similar, with other bits of film in three different combinations. In the first combination, the close-up of Mosjukhin was immediately followed by a shot of a plate of soup standing on a table. It was obvious and certain that Mosjukhin was looking at this soup. In the second combination, the face of Mosjukhin was joined to shots showing a coffin in which lay a dead woman. In the third, the close-up was followed by a shot of a little girl playing with a funny toy bear. When we showed the three combinations to an audience, which had not been let into the secret the result was terrific. The public raved about the acting of the artist. They pointed out the heavy pensiveness of his mood over the forgotten soup, were touched and moved by the deep sorrow with which he looked on the dead woman, and admired the light, happy smile with which he surveyed the girl at play. But we knew that in all three cases the face was exactly the same." (Pudovkin, 1929, p. 168) The linear assemblage of shots constructs meaning in horizontal editing.

Eisenstein conceived of vertical editing patterns primarily as the synchronization of

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simultaneous image and sound elements, particularly music, to create cinematic meaning by means of the relationship between them. The orchestral score with its many staffs filled with intricate, but synchronized notation, was Eisenstein's inspiration for vertical montage. He observed that, "... this new kind of montage, associated with this film, I have named: vertical montage.... Everyone is familiar with the appearance of an orchestral score. There are several staffs, each containing the part for one instrument or a group of like instruments. Each part is developed horizontally. But the vertical structure plays no less important a role, interrelating as it does all the elements of the orchestra within each given unit of time. Through the progression of the vertical line, pervading the entire orchestra, and interwoven horizontally, the intricate harmonic musical movement of the whole orchestra moves forward" (Eisenstein, 1947, p. 74). He goes on to say that, "when we turn from this image of the orchestral score to that of the audio-visual score, we find it necessary to add a new part to the instrumental parts: this new part is a "staff" of visuals, succeeding each other and corresponding, according to their own laws, with the movement of the music-and *vice versa*" (Eisenstein, 1947, p. 74).

Paradigms, Technology, and Cinema

The Eisensteinian editing theories and techniques embody the values of the dominant paradigm of the time. They were grounded in a linear, assembled, progressive, and fixed worldview of the positivist paradigm of the industrial era. In the context of moving image editing, these ideas have stood without much extension for well over fifty years. In recent years, both paradigm and technology have changed. Both developments are affecting all elements of the theory base of moving images.

At the paradigmatic level, emergent systems theory derived from biology and ecological consciousness, posits a worldview of interdependent systems that are self-organizing, self-renewing, and self-transcending. (Capra, 1982 p. 269, Kelly, 1995)

At the technological level, the rise of cybernetic and electronic technologies, the softmachines of both Jim Morrison and John Von Neumann, replete with computers and networks, now dominate the technological landscape. Both the paradigm and the technology are locked in an intimate spiral of mutual definition. The new machines are as much result of the new worldview as conversely the new worldview is a creation of the new machines. From a systems perspective, a technological system is composed of four interactive elements: hardware, software, thoughtware, and context. It is a human surround that provides the system context.

The impact of these profound changes is only beginning to be felt within the domain of cinematic theory and practice.

The cinematic technology revolution of the last decade along with the revisioning of the theory base has led to a reconceptualization of vertical editing. Computer utilization and non-linear editing technique facilitate a new form of juxtaposition of meaning. This is accomplished by the digital overlay and underlay of multiple images. Under cybernetic conditions vertical editing becomes multiple images layered in space and simultaneous in time, rather than synchronized juxtapositions of strips of sound and image. Examples of the new context of vertical editing can be found within music videos, commercials, and the works of the avant garde.

For decades layered images have been created with the analog technology of the film optical printer. However, optical printing is not even remotely similar to working with digital technology. The dynamics of creative digital technology work are very different. Optical technology requires a planned and rigid sequence of steps to be taken in a specific order. The results cannot be seen or revised in realtime. The film must be developed first. In a

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planned process such as this, there is little room, if any, for spontaneity. The techniques of this technology, informed by an industrial age paradigm, demand a precise and planned approach from which there can be no deviation.

The electric analog video process of chromakey extends the process. Chromakey is a video technique that electronically eliminates a specified color, usually the background of a shot and its replacement with another image. While more fluid than the optical printer, chromakey does not allow for the techniques of selective replacement and the near infinite layering of multiple images, with no degradation of resolution, that a digital approach allows. A digital approach utilizing digitized images reworked in software facilitates the painterly approach of the artist.

The techniques of digital technology are informed by emergent systems thinking. Accordingly self-organizing, self-renewing, and self-trancending elements are present. In a digital environment, results are viewed and revised in realtime. Very often, the spontaneous juxtaposition of layers leads to the creation of new meaning. Within the digital frame immediate feedback and revision facilitate self-organized meaning that is emergent from the process. As the ease of revision facilitates multiple and alternate juxtapositions, digital editing becomes self-renewing, always reinventing the sequence. Because the layering of imagery creates new meaning, vertical editing becomes a self-trancending process. The layering of unrelated images creates unexpected juxtapositions that yield new meanings.

Digital Vertical Montage

The author's work of Digital Cinema, **The Songs of Steel**, contains many examples of these processes. One wide angle long shot contained a view of Titus and Talifer, two principle characters, warily advancing towards the camera. The original video image, with a stage as background, lacked the context that the story required. In a film or video context, this shot would be for all intents and purposes unusable. In analog media, image elements are locked into a fixed relationship with other image elements.

Digital information is highly fluid. It can easily take on new forms. The ease with which fonts are changed in a text file serves as an example. Because a digital image is not fixed it can be revised at any time. By underlaying a forest grove behind the two characters, a new context was created. The original image had been reinvented. Fluid digital images invite restructuring. They are self-renewing.

The process was by no means complete. The underlayed image was now overlayed with the image of a vine in the foreground that was eventually pulled aside by an unidentified hand entering the frame. This new image emerged out of the process of vertical editing not from any specification called for in the script. Digital editing is self-organizing.

The resulting three layer shot is very different from what was described in the script. The script has predicted nothing. Its importance lies in providing an initial condition for development. Where the original long shot presented an objective and neutral view of the two characters. New meaning was created by the overlay of a hand entering the frame and removing the vine. The long shot, no longer objective, was now the perspective of an unknown viewer. It is solely the juxtaposition of images that has created the new viewer realization. By fusing disparate images, the new combined image is self-transcendant containing new meaning that is not to be found in the separate image elements.

The Eisensteinian notion of vertical editing has been restructured. No longer does the term solely refer to the symphonic synchronization of visual elements with soundtrack elements. Informed by a systems view, implemented by digital tools and techniques, vertical editing has

acquired new meaning. Vertical montage now creates virtual environments. As a result, new and innovative forms of cinematic expression and meaning are emerging. Vertical editing is a key element in establishing a painterly cinema. The crisp construction of Hegelian meaning is giving way to the more elliptical and emergent meaning of layered digital imagery.

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